SOUTH JORDAN CITY CITY COUNCIL REPORT

Issue: RISE

LAND USE AMENDMENT AND REZONE

Land use boundary adjustment between AP (Agricultural Preservation) and MU (Mixed Use), and a rezone from A-5 (Agricultural, minimum 5 acre lot) to R-M-PD (Residential-Multiple-Planned Development Floating Zone) Zone

Address: 10657 S. 1055 W.
File No: PLZBA202200147
Applicant: Bryan Flamm, DAI Inc.

Submitted by: Damir Drozdek, Planner III

Jared Francis, Senior Engineer

Presented by: Steven Schaefermeyer, Director of Planning

Staff Recommendation (Motion Ready):

1. Development Agreement—I move that the City Council **approve** Resolution R2022-39 authorizing the Mayor to sign the development agreement.

2. Land Use Amendment—I move the City Council **approve** Resolution R2022-40 approving the proposed land use amendment.

3. Zone Change—I move the City Council **approve** Ordinance No. 2022-07-Z approving the proposed zone change.

ACREAGE: Approximately 18 acres

CURRENT ZONE: A-5 (Agricultural, min. 5 acre lot) Zone CURRENT USE: Single-family residence and unimproved land

FUTURE LAND USE PLAN: MU (Mixed Use) and AP (Agricultural

Preservation)

NEIGHBORING ZONES/USES: North – R-1.8, A-5 and C-C / Mix of single-

family residences, vacant and unimproved

Meeting Date: 12/06/2022

land, and commercial (office) space

South – A-5 / Pasture fields West – A-5 / 1055 West

East – P-O / RiverPark Corporate Center (office

park)

STANDARD OF APPROVAL

1. LAND USE AMENDMENT:

The general plan may be amended by resolution of the City Council as follows:

- A. The process to amend the general plan and future land use map may be initiated by members of the City Council, by the City Manager or Planning Director, or by the owner of a subject property or his or her agent. A general plan land use or text amendment which is not initiated by the City may not be reinitiated for an amendment which was considered within the previous year without a majority vote of the City Council. A land use amendment should not impair the development potential of the subject parcel or neighboring properties.
- B. The Planning Commission shall hold a public hearing, as required by state law, after which the commission may modify the proposed general plan amendment. The Planning Commission shall then forward the proposed general plan amendment to the City Council.
- C. After receiving the recommendation of the Planning Commission, the City Council shall hold a public hearing, and may accept, accept with modifications, or reject the proposed general plan amendment.

(City Code § 17.12.030)

2. REZONE:

The rezoning of property may not be considered if the proposed zoning does not conform to the general plan. The following guidelines shall be considered in the rezoning of parcels:

- A. The parcel to be rezoned meets the minimum area requirements of the proposed zone or if the parcel, when rezoned, will contribute to a zone area which meets the minimum area requirements of the zone.
- B. The parcel to be rezoned can accommodate the requirements of the proposed zone.
- C. The rezoning will not impair the development potential of the parcel or neighboring properties.

(City Code § 17.22.020)

BACKGROUND:

The applicant is requesting a land use amendment and a zone change to construct a mixed residential development on property located at 10657 S. 1055 W. The parcel is located on the hillside to the west of the River Park Corporate Center and east of 1055 West. It is the largest parcel in the area at roughly 18 acres.

The project will consist of 134 townhomes, 20 twin homes and one single-family home. The twin homes will be generally located along the north project boundary. They will be single-story buildings with bonus rooms in the attics and have front-loaded garages. The townhomes will make up the majority of the project and be evenly distributed throughout the property. All townhomes will be two-story buildings, and will be both front and rear loaded depending on the location. Exterior finishes on the twin homes will consist mainly of fiber cement and stone, while the townhomes will have a combination of either stone and fiber cement, or brick and fiber cement. The design of the single-family home has not be submitted but must comply with the current City requirements for single-family homes.

The project's main road will extend River Stone Way (10840 South) through the project to the adjacent property on the project's north boundary. This stub road will provide access to that property when it develops in the future. While River Stone Way will have a 62-foot right-of-way (ROW), the majority of other roads in the project will have a 33-foot ROW. One of these roads will connect to 1055 West at the west end of the project. All roads in the project will be public except for the 21-feet-wide private alleys between garages that will be located on the south side of the project.

To facilitate development and provide access for the Robbins property to the south, two stub roads will be provided, one at the southeast side of the project near the canal trail, and the other at the southwest side of the project. Due to grading challenges, a small section of the stub road on the southwest side will not be improved but will be dedicated for future improvements. It is anticipated that future development to the south will work around the grade difference to make the connection possible at this location.

The project will have various amenities including but not limited to open space, a dog park, and a clubhouse. There will be a pedestrian connection to the canal trail, and all roads will have a sidewalk on at least one side of the street to promote walkability throughout the project. The project will be surrounded by a six-foot vinyl privacy fence, except for the side along the canal, where a six-foot rail fence will be built to tie into the canal trail and the surrounding area. Landscaping will comply with the City's water efficiency standards.

The applicant has agreed to build six off-site pickleball courts at the City's East Riverfront Park. These courts will benefit all residents and will become public once constructed and accepted by the City. By including the land area where the applicant will build the pickleball courts, the project will have an overall density of eight units per acre.

Development Agreement:

The proposed land use change and rezone requires the applicant to enter into a development agreement approved by the City Council. Approval of the proposed PD Floating Zone and development agreement will allow the underlying zone to be modified to accommodate development that may incorporate design elements and a mixture of uses that represent a significant improvement in quality over what could otherwise be accomplished by the underlying zone. The proposed development agreement will provide general requirements for the development and include terms addressing items such as site layout, architecture, amenities and

circulation that are more than what City Code requires. Staff and the applicant have negotiated and proposed a development agreement that includes the following:

- The project will be built according to the concept plan and elevations attached to the agreement.
- All roads within the project will be public and maintained by the City. Only alleys between the buildings will be private and maintained by the HOA.
- Streets will be built according to the plans submitted and River Stone Way (10840 South) will be posted as "no parking."
- The project's fencing will be installed according to the fencing plan attached to the development agreement.
- The applicant will construct all amenities shown on the concept plan and the six public pickleball courts in the City's Riverfront Park according to a specified timeline.

Attached to this report are many of the exhibits that will be attached to the development agreement, including the concept plan. The City Council may include additional provisions in the development agreement.

PLANNING COMMISSION RECOMMENDATION:

On November 8, 2022, the Planning Commission voted to recommend approval of the application by a vote of 4-1 (Commission Chair, Michele Hollist, voted against recommending approval to the City Council). The recommendation of approval included the following suggestions and changes to the project:

- That the City Council address the proposed road that connects to 1055 West by:
 - o addressing the designation of 1055 West as a historic road and any improvements or widening of the road that may be needed; and
 - o requiring changes to the proposed road that will better protect existing homes along 1055 West.
- Require masonry fences between the project and the north and south properties instead of vinyl to protect the current agricultural use.

After the Planning Commission meeting the applicant made the following changes to the concept plan in response to the Commission's concerns:

- Shifted the road that connects to 1055 West south by 2.5 feet. Although this is a small shift, it will provide an opportunity of possibly preserving some of the trees along the northern boundary of the property, which should also provide a better buffer for the adjacent property.
- Adjusted the shape of the single-family lot to provide a bit more transition from 1055 West and the townhomes in the project, and to create the possibility of preserving existing trees.
- The west townhome building shifted south to accommodate the road shift.
- Added five parking stalls bringing the project total to four stalls/unit.

• Removed the sidewalk along the south property line the slope makes the sidewalk infeasible. The overall connectivity, however, is not substantially impacted because there are other sidewalks that connect southern townhome units to the project.

The applicant did not make changes to the fencing plan and proposed vinyl fencing on the north and south boundaries because the neighboring properties have a high probability of being developed in the near future. Additionally the applicant believes that with existing animal fencing in place, the proposed vinyl fence will suffice.

STAFF FINDINGS, CONCLUSIONS & RECOMMENDATION:

Findings:

- As required by the PD Floating Zone process (*see* City Code § 17.130.050.020.A.1), the project was reviewed at a City Council study session meeting on August 2, 2022. Based on that discussion, the applicant chose to move forward with the proposal and negotiate development agreement terms with City staff.
- The Architectural Review Committee reviewed building elevations and architecture on August 24, 2022, and unanimously recommended approval of the building designs.
- The application meets the rezone standards of approval of the City Code.
- The project will be a "for-lease" product.
- The required development agreement provides predictability for how the property will look and be used. Any changes to the use will require further approvals and a modification of the development agreement by the City Council.
- The "Mixed Use Opportunity (MU)" land use designation is defined in the General Plan as follows: "Mixed Use Opportunity identifies areas that are currently either undeveloped or underdeveloped and adjacent to Economic Centers. The intent is to elevate these areas from single land uses to an integrated mix of commercial, retail, office, residential, and light industrial land uses. Mixed use opportunity supports both horizontal and vertical mix of uses and shall result in walkable areas that are activated with employees during weekdays and residents, restaurants, and entertainment during evenings and weekends."
- The "Agricultural Preservation (AP)" land use designation is defined in the General Plan as follows: "Agricultural Preservation identifies areas with current and/or historic agricultural usage. Though these properties are a beloved asset to the community, future development is probable. Future development shall be primarily residential and serve to preserve the agricultural character in the forms and character of the development. Cluster style development will be encouraged to preserve the agricultural use/open space where possible. Small scale, neighborhood commercial uses could be strategically placed consistent with surrounding land uses and/or at the core of the neighborhood to provide a themed service base for neighborhood gathering."
- The project will meet the following strategic priorities:
 - DAOS-1. Develops a quality parks, trails and recreation facilities system
 - DAOS-4. Offers a variety of park amenities, recreation and art programs and community events for all ages and abilities
 - SG-1. Implements effective policies and programs to ensure the accomplishment of the General Plan and its related goals and objectives while using a variety of financial tools (e.g. RDA housing funds) to ensure diverse and affordable housing types

• SG-2. Creates and supports environmentally sustainable programs including water conservation, recycling, energy conservation, and air quality improvement to ensure the financial well-being and long-term sustainability of the community

Conclusion:

Based on the findings, the application is consistent with the goals and policies of the General Plan and the City's Strategic Priorities.

Recommendation:

Based on the findings and conclusion listed above, Staff recommends that the City Council take comments at the public hearing and **approve** the application, unless, during the hearing, facts are presented that contradict these findings or new facts are presented, either of which would warrant further investigation by Staff.

FISCAL IMPACT:

A fiscal impact analysis table and graphics are attached to the report.

ALTERNATIVES:

- Approve an amended application.
- Deny the application.
- Schedule the application for a decision at some future date.

SUPPORT MATERIALS:

- Aerial Map
- Future Land Use Map
- Zoning Map
- Building Elevations
- Concept (Site) Plan
- Concept (Site) Plan with highlighted changes
- Fencing Plan
- Amenity Exhibit
- Pickle Ball Concept

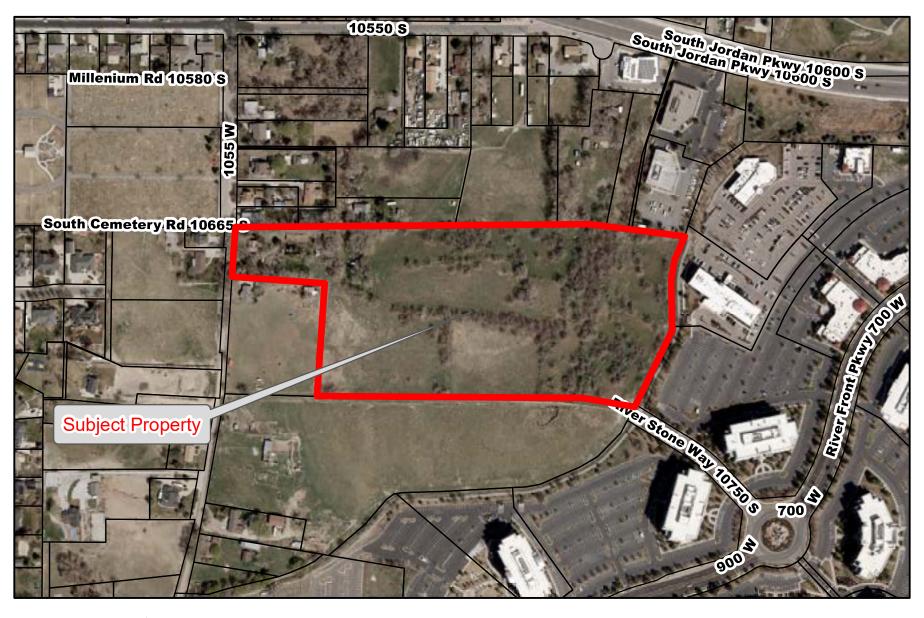
- Fiscal Analysis
- Infrastructure Analysis
- Traffic Impact Study
- Resolution R2022-39 and the Development Agreement
- Resolution R2022-40
 - Exhibit 'A'- Future Land Use
- Ordinance 2022-07-Z
 - Exhibit 'A' Zoning Map

DEPARTMENT APPROVAL

DAMİR DROZALLA Damir Drozdek (Dec 2, 2022 10:57 MST)

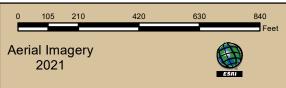
Damir Drozdek, AICP Planner III, Planning Department Steven Schaefermeyer
Steven Schaefermeyer (Dec 2, 2022 11:11 MST)

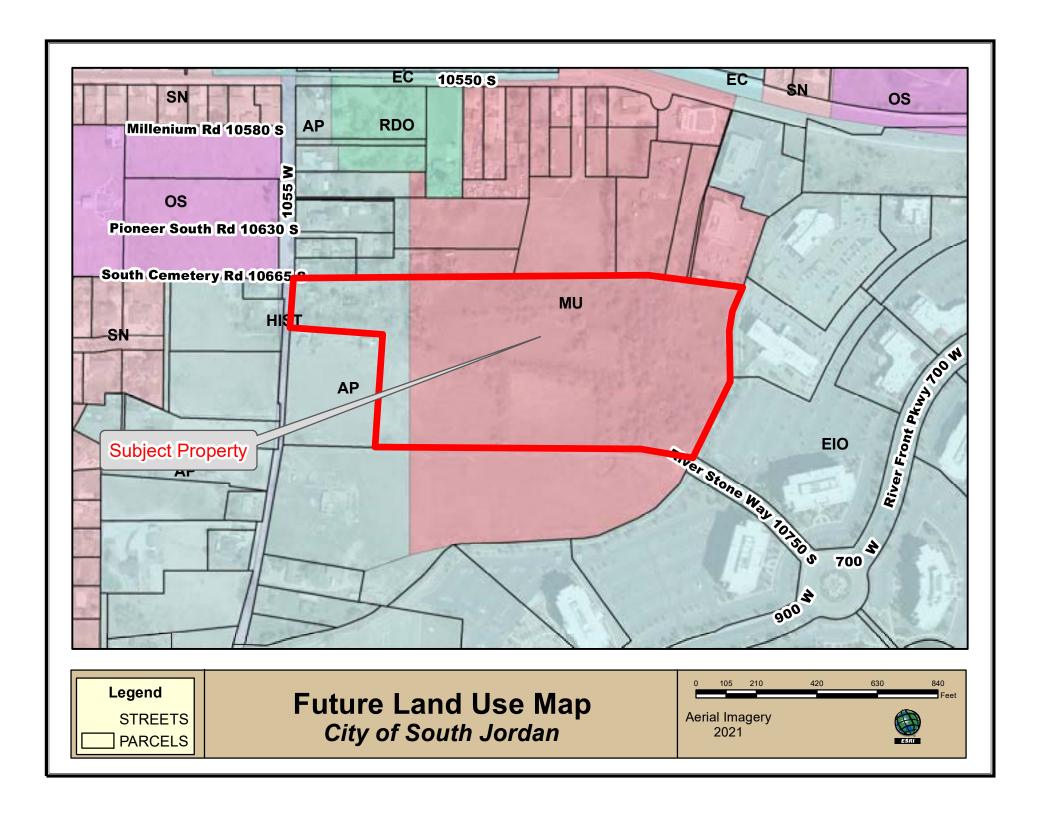
Steven Schaefermeyer Director of Planning

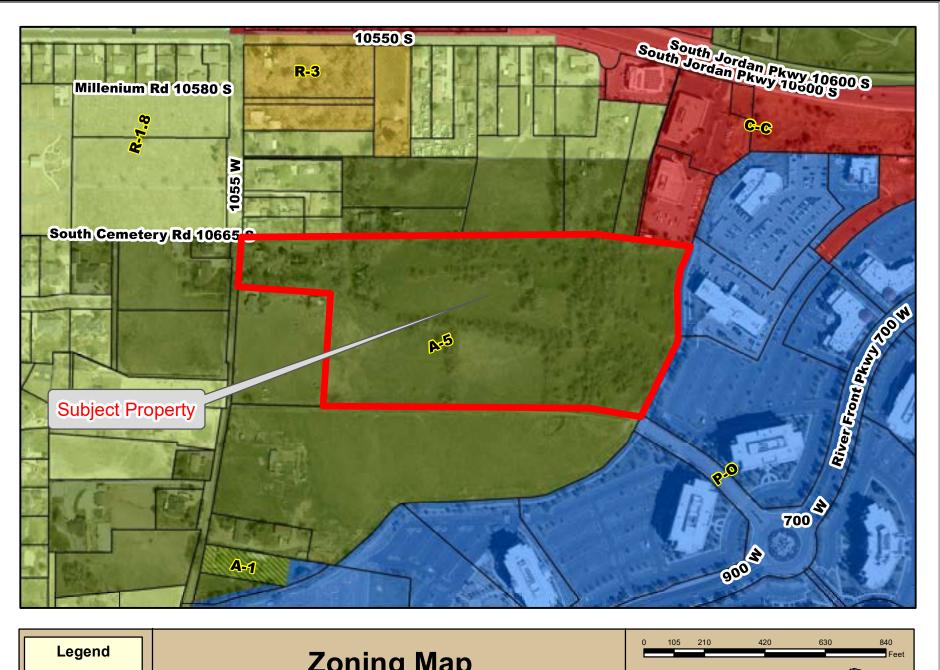


Legend
STREETS
PARCELS

Aerial Map
City of South Jordan







Legend
STREETS
PARCELS

Zoning Map
City of South Jordan





RISE - DESIGN PAGAGE

SOUTH JORDAN, UTAH







COLORS AND DOOR STYLES MAY VARY EDOM CONCERTIAL IMAGE SHOWN, SEE COLORMATERIAL ROADD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL FRONT LOAD BLDG TYPE 1 - RENDERING

D101





TOLORS AND DOOD STYLES MAY VARY EDOM CONCERTIAL IMAGE SHOWN, SEE COLORMATERIAL ROADD FOR ACTUAL SELECTION.

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL FRONT LOAD BLDG TYPE 1 - RENDERING 2

D102





COLORS AND DOOR STYLES MAY VARY EDOM CONCERTIAL IMAGE SHOWN, SEE COLORMATERIAL ROADD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 2 - RENDERING

D105





COLORS AND DOOR STYLES MAY VARY FROM CONCEPTUAL IMAGE SHOWN, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

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TYPICAL TWIN HOME BLDG TYPE - RENDERING

D106





REAR ELEVATION SD



RISE - DESIGN PACKAGE

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TYPICAL FRONT LOAD BLDG TYPE 1 - ELEVATIONS

D201







DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS.

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SOUTH JORDAN, UTAH

TYPICAL FRONT LOAD BLDG TYPE 1 - ELEVATIONS

D202









DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS.

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 1 - ELEVATIONS

D205



REAR ELEVATION





DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 1 - ELEVATIONS

D206











DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS.

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SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 2 - ELEVATIONS

D207



REAR ELEVATION





DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS.

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 2 - ELEVATIONS

D208











DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS.

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 3 -ELEVATIONS

D209





RIGHT ELEVATION

(D)

(D)

(D)



DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 3 -ELEVATIONS

D210











DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 4 - ELEVATIONS

D211







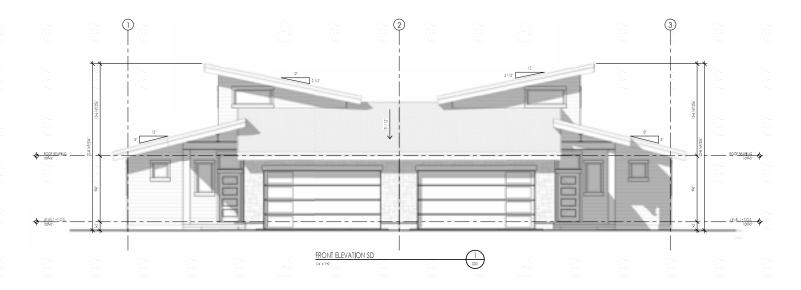
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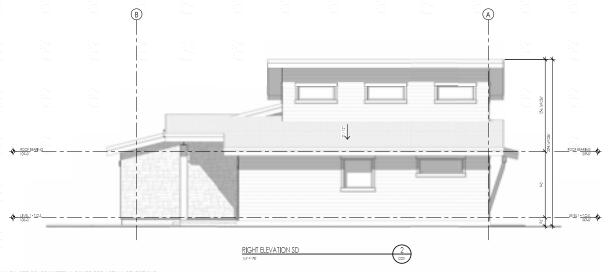
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SOUTH JORDAN, UTAH

TYPICAL REAR LOAD BLDG TYPE 4 - ELEVATIONS

D212







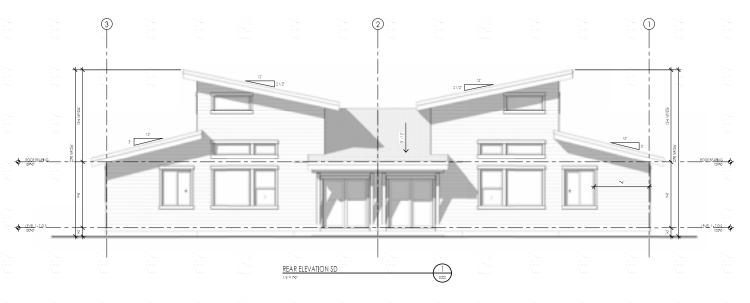
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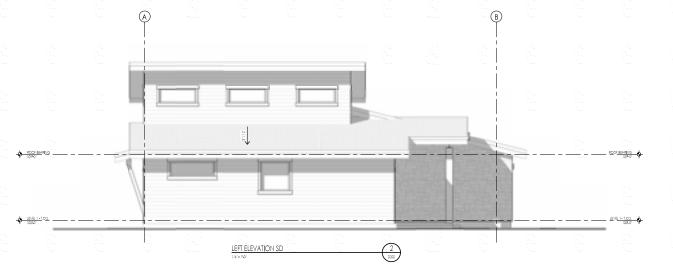
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SOUTH JORDAN, UTAH

TYPICAL TWIN HOME BLDG TYPE -ELEVATIONS

D213







DOOR STYLES MAY VARY, SEE COLOR/MATERIAL BOARD FOR ACTUAL SELECTIONS

RISE - DESIGN PACKAGE

SOUTH JORDAN, UTAH

TYPICAL TWIN HOME BLDG TYPE -ELEVATIONS

D214

HIGHLIGHT/POP OUT COLOR FOR FRONT LOAD BUILDINGS



Hardie - Color 1 Manufacturer: Hardie Color Plus Color: Pearl Grav



Fiber Cement Trim 1 Manufacturer: Hardie Color Plus Color: Pearl Gray Use for trim at Hardie - Color 1



Hardie - Color 2 Manufacturer: Hardie Color Plus Color: Aged Pewter



Fiber Cement Trim 2 Manufacturer: Hardie Color Plus Color: Aged Pewter Use for trim at Hardie - Color 2 and Transition Trim



Board & Batt Siding Manufacturer: James Hardie Color: SW 7069 Iron Ore



Fiber Cement Trim 3 Manufacturer: lames Hardie Color: SW 7069 Iron Ore At all trim in and around Board and Batt Rock Bottom Siding



Fiber Cement - Accent Stone (Front Load) Manufacturer: Manufacturer: Allura, Hardie, or Ea. Dutch Quality Color: Color: Maple Ashen Dry Stack

COLORS FOR SELECT TWIN HOME BUILDINGS



Brick (Rear Load) Manufacturer: Interstate Color: Coa

NOTE: ENTRY DOORS AND GARAGE DOORS TO BE SOLID DOORS, NO GLASS



Front Door Opt. 1 Manufacturer: TBD Color: SW 9149 Inky Blue



Front Door Opt. 2 Manufacturer: TBD Color: SW 7069 Iron Ore



Gar. Door Manufacturer: CHI Overhead Doors Color: Bronze



Alum Fascia/Sofit Manufacturer: Mastic Color: Dark Bronze



Roofina Manufacturer: CertianTeed Color: Moire Black



Hardie - Color 1 Manufacturer: Hardie Color Plus Color: Pearl Gray



Fiber Cement Trim Manufacturer: Hardie Color Plus Color: Aged Pewter



Alum Fascia/Soffit/ Columns/ Beams Manufacturer: Mastic Color: Dark Bronze



Stone (Front Load) Manufacturer: Dutch Quality Color: DS Ashen

HIGHLIGHT/POP OUT COLOR CONFIGURATIONS FOR REAR LOAD BUILDINGS



Siding - Highlight Manufacturer: TBD Color: Whole Wheat / Evenina Blue



Siding - Highlight Manufacturer: TBD Color: Mountain Sage / Evening Blue



Siding - Highlight Manufacturer: TBD Color: Evenina Blue / Whole Wheat



Siding - Highlight Manufacturer: TBD Color: Evenina Blue / Mountain Sage



Siding - Highlight Manufacturer: TBD Color: Whole Wheat / Mountain Sage



Siding - Highlight Manufacturer: Color: Mountain Sage /



TBD Whole Wheat

COLOR/MATERIAL

DAI - RISE

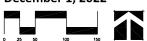
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15 AUG. 2022









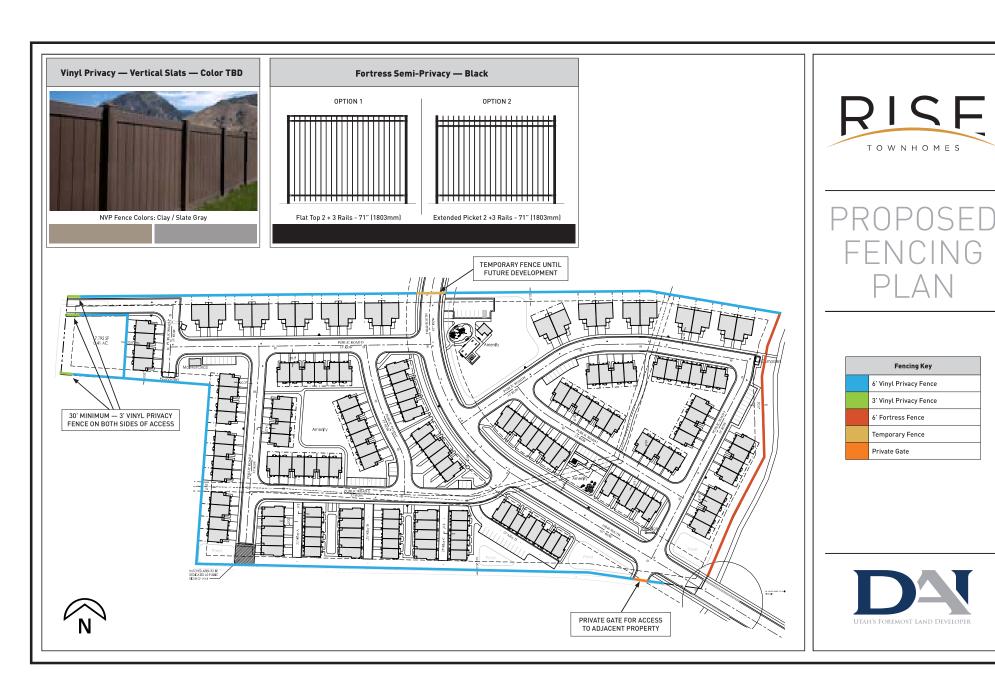
Concept Plan Rise, South Jordan, Utah

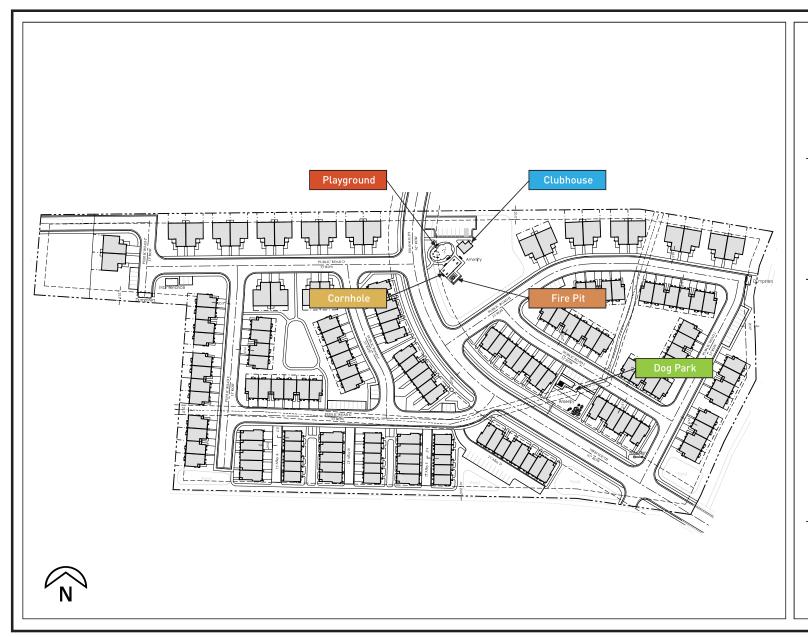


Think Architecture



Concept Plan Rise, South Jordan, Utah







COMMUNITY AMENITIES







NOTE:

ALL CURRENT TREE LOCATIONS, SITE DIMENSIONS, AND WALKWAYS ARE TO BE CONFIRMED IN THE FIELD.
 LIGHT FIXTURES TO BE DETERMINED BY ELECTRICAL ENGINEER.

Think Architecture

Architecture Interior Design Landscape Architecture Land Planning Construction Management

> igh Point Parkway, Suite 300 Sandy, UT 84094 Ph: 801.269.0055 Fax: 801.269, 1425 www.thinkaec.com

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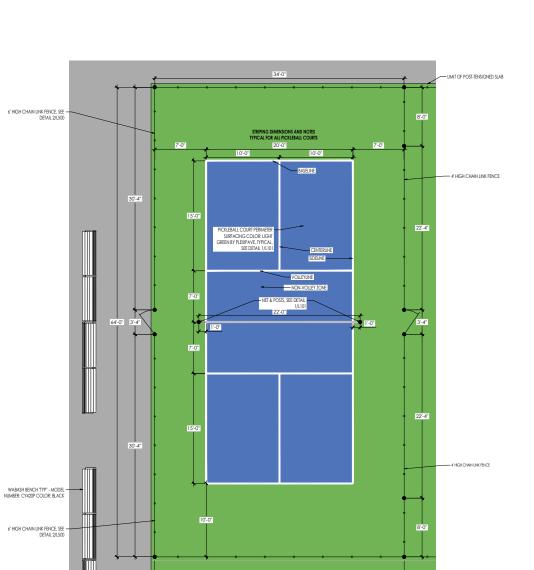
PROJECT NO. 18027 DATE: OCT. 19, 2022 REVISIONS:

SHEET TITLE:

Concept plan

L100

LANDSCAPE





Architecture

Architecture Interior Design Landscape Architecture Land Planning Construction Management

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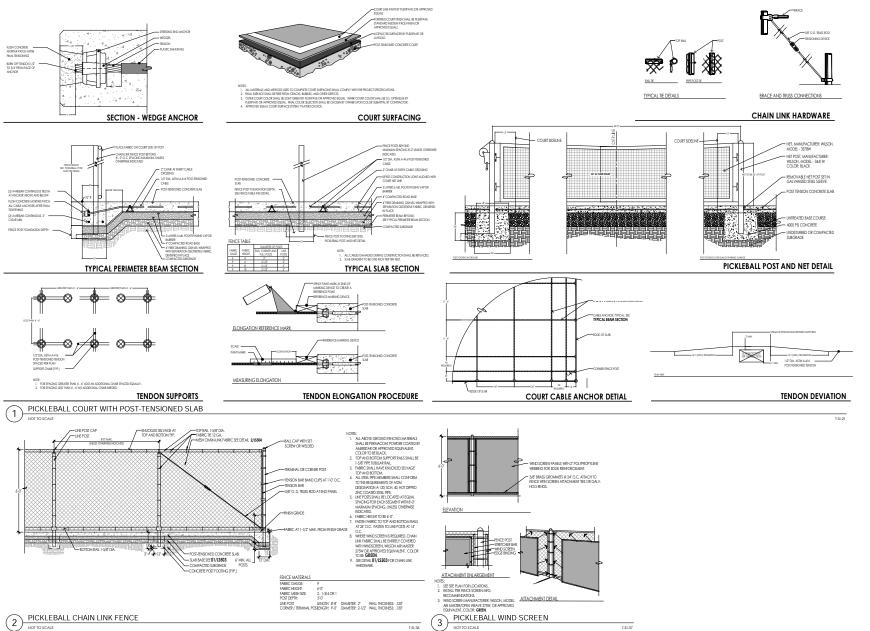
SHEET TITLE:

ENLARGED COURT PICKLEBALL PLAN

SHEET NUMBER:

L200

LANDSCAPE



Architecture

Architecture Interior Design Landscape Architecture Land Planning Construction Management

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PROJECT NO. 18027 DATE: OCT. 19, 2022 REVISIONS:

SHEET TITLE: DETAILS

SHEET NUMBER:

L500

LANDSCAPE

Project Analysis

Project: Rise Rezone September 26, 2022

Scenario Descriptions

| Scenario 1: | No Change - A-5 | |
|--------------------------------|--------------------------------------|----------|
| No Change - A | griculture A-5 | R |
| Scenario 2: Multiple-Family | R-M-8 Residential | E |
| Scenario 3: | R-M-8 | <u>T</u> |
| Multiple-Family | Residential with onal Town Homes for | E . |

Financial Summary by Scenario

| (General Fund) | No (| Change - A-5 | R-M-8 | R-M-8 |
|------------------------|----------|------------------|-----------------|------------------|
| Revenue | \$ | 1,029 | \$ 107,112 | \$ 115,434 |
| Property Tax | \$ | 316 | \$ 64,917 | \$ 70,289 |
| Sales Tax (direct) | \$ | 1 4 1 | \$ - | \$ |
| Other | \$ | 713 | \$ 42,196 | \$ 45,145 |
| Expenses | \$ | 42,149 | \$ 98,248 | \$ 101,086 |
| Roads | \$ | 170 | \$ 22,792 | \$ 22,792 |
| Emergency Serv. | \$ | 461 | \$ 28,949 | \$ 31,376 |
| Parks | \$ | 82 | \$ 4,908 | \$ 5,320 |
| Other | \$ | 41,606 | \$ 41,598 | \$ 41,598 |
| Total | \$ | (41,120) | \$ 8,865 | \$ 14,348 |
| Per Acre | \$ | (1,996.11) | \$ 430.40 | \$ 696.65 |
| Per Unit | \$ | (20,559.88) | \$ 61.99 | \$ 92.57 |
| Per Person | \$ \$ | (5,826.46) | \$ 21.04 | \$ 31.42 |
| Indirect Impact | | | | |
| Potential Retail Sales | \$ | 162,765 | \$ 9,986,468 | \$ 10,823,518 |

1,653 \$

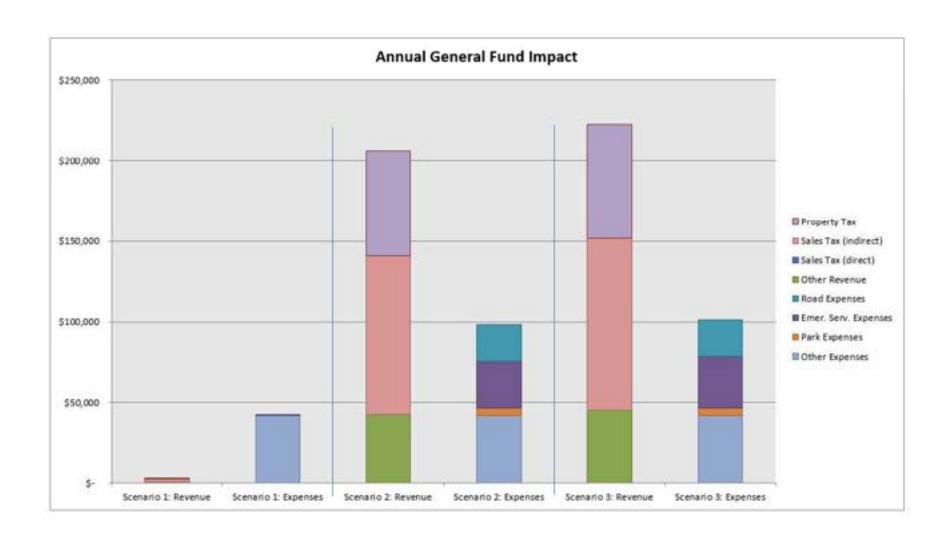
106,986

Direct Impact

Sales Tax (indirect)

^{*}Other Revenue - Includes Permits, Licenses, Motor Vehicle Tax, Energy Sales & Use Tax, Telecommunications Tax, and Cable Franchise Tax.

^{**} Other Expense - Includes all other General Fund Expenses excluding Roads, Emergency Services, and Parks.



LAND USE AMMENDMENTS & REZONE DEVELOPMENT PROJECTS

INFRASTRUCTURE ANALYSIS

| Project Name/Number | The Rise | ne Rise 10657 S 1055 W | | | | | | | |
|---------------------|----------|------------------------|--|--|--|--|--|--|--|
| Planner Assigned | | Damir Drozdek | | | | | | | |
| Engineer Assigned | | Jared Francis | | | | | | | |

The Engineering Department has reviewed this application and has the following comments:

<u>Transportation:</u> (Provide a brief description of the access, transportation master plan and how this change affects Master Plan, condition/status of existing roadways. Determine whether a Traffic Study should be completed)

The subject property will be accessed from River Stone Way (10840 South) in the southeast corner; River Stone Way will continue through the development and stub to the north undeveloped property. The project will also be accessed from 1055 West in the northwest corner. The development will be required to install or pay to the City a fee-in-lieu amount for the installation of the right of way improvements along the portion of 1055 West that borders the project, and dedicate the necessary right of way.

<u>Culinary Water:</u> (Provide a brief description of the water servicing the area, look into deficiencies, and determine if water modeling needs to be performed at this time, look at Water Master Plan and evaluate the change to the Master Plan)

There is an existing City owned 10" water main in River Stone Way and a 6" water main in 1055 West. With the size of the development and number of units, the water system will need to be looped. Fire hydrants will be required on site as per City standards. A water model will be required as part of the preliminary subdivision submittals.

Secondary Water: (Provide a brief description of the secondary water servicing the area, briefly look into feasibility)

There does not appear to be a City owned secondary water system adjacent to the project. An engineer's cost estimate may be required with development to determine if it's feasible per City code for the new development to provide a functioning secondary water system.

Sanitary Sewer: (Attach letter from South Valley Sewer stating that this zone/land use change does not affect service and that any future project can be services by the District)

There is a sewer main line in River Stone Way, another one in 1055 West, and there appears to be another sewer main that runs through the subject property from southwest to northeast. Sewer connection requirements will be determined by the South Valley Sewer District.

Storm Drainage: (How will this area be services for storm drainage, kept on site, Master Storm Plan, etc. any other issues with drainage)

In order to comply with State and City guidelines, the proposed development must retain on site, through use of approved low impact development devices and best management practices, all rainfall events less than or equal to the 80th percentile rainfall event. For storm events greater than the 80th percentile, the additional storm water must either be retained on site or discharged into an approved storm drain system. The closest existing public storm drain system is located at the end of River Stone Way, but the amount of capacity will need to be determined.

Other Items: (Any other items that might be of concern)

Report Approved:

Brad Klavano, PE, PLS

Director of Development Services/City Engineer

10/26/22 Date



South Jordan – Rise Townhomes Traffic Impact Study





Prepared by: WCG

Date: September 1, 2022



Executive Summary

This study addresses the traffic impacts associated with the proposed Rise Townhomes (Project) located in South Jordan, Utah. The Project is located south of South Jordan Parkway in between 1055 West and River Front Parkway. The Project proposes a total of 142 multi-family low rise units

The level of service (LOS) for both morning and evening peak hours was determined for each study intersection under every scenario. The results of the analysis are summarized in *Table ES-1* for the AM and PM peak hours.

| Table ES-1: Level of Service Summary | | | | | | | | | | | | |
|--------------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|
| | Level of Service (sec/vehicle) ¹ | | | | | | | | | | | |
| Intersection | Existing (2022) Background | Opening Day 2022 Plus Project no 1055 W connection | Opening Day 2022 Plus Project with 1055 W connection | | | | | | | | | |
| AM Peak Hour | | | | | | | | | | | | |
| 10550 S / 1055 W | A (5.2) SB Thru | A (5.0) SB LT | A (6.1) NB LT | | | | | | | | | |
| 10840 S / River Front Pkwy | A (3.4) | A (3.4) | A (3.4) | | | | | | | | | |
| | PM Peak | Hour | | | | | | | | | | |
| 10550 S / 1055 W | A (5.3) SB Thru | A (5.0) SB Thru | A (5.1) SB Thru | | | | | | | | | |
| 10840 S / River Front Pkwy | A (3.9) | A (3.9) | A (3.9) | | | | | | | | | |

Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized intersections and the worst movement for unsignalized intersections.



Findings and Recommendations

WCG makes the following conclusions and recommendations:

- The existing study intersections currently operate at acceptable levels of service
 - No mitigation measures are recommended for the background 2022 conditions.
- The Project proposes a total of 142 dwelling units.
 - The Project is anticipated to add approximately 984 daily trips, 58 AM peak hour trips, and 74 PM peak hour trips.
 - Two project conditions were considered. One condition contained only the access to the housing development from the east side along 10840 South. The other condition included an additional access on the west side of the housing development with 1055 West.
- With project traffic added, the study intersections are anticipated to operate at acceptable levels of service. This is true for both project conditions.
- Having a connection to 1055 West does not significantly change the overall traffic operations in the study area. Either alternative will work well. However, to improve connectivity, integrate the development into the neighborhood and provide transportation options for residents, the connection to 1055 West is recommended.



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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed mixed-use property (Project) located in South Jordan, Utah. The Project is located south of South Jordan Parkway in between 1055 West and River Front Parkway. *Figure 1* depicts the location of the Project. A concept land use plan is also included in *Appendix A*.

Included within the analyses for this study are the traffic operations for opening day (2022) conditions with the Project at study intersections and roadways adjacent to the Project.

B. Scope

Based on the proximity to the Project site the following intersections were analyzed to evaluate the traffic operational impacts:

- 10550 South / 1055 West
- 10840 South / River Front Parkway

C. Analysis Methodology

Level-of-service (LOS) is a term that describes an intersections operating performance during critical peak hours of the day. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. *Table 1* provides a brief description of each LOS letter designation and an accompanying average delay per vehicle thresholds for both signalized and unsignalized intersections.

The Highway Capacity Manual (HCM) 7th Edition, 2022 methodology was used in this study. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized intersections, the overall intersection LOS is reported. For other unsignalized intersections, the worst approach or movement LOS is reported. LOS is measured in seconds of delay per vehicle.

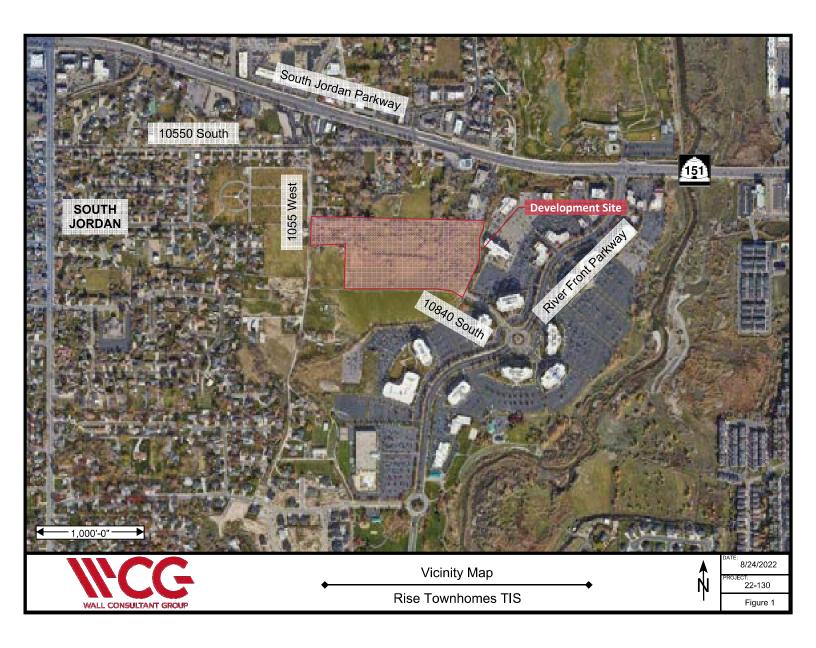


| | Table 1: Level of Service Definition for Intersections | | | | | | | | | | | | |
|---------|--|-------------------------------------|---------------------------|--|--|--|--|--|--|--|--|--|--|
| LOS | Signalized Delay (sec/vehicle) | Unsignalized Delay (sec/vehicle) | Description | | | | | | | | | | |
| Α | ≤10 | ≤10 | Favorable progression | | | | | | | | | | |
| В | >10 and ≤20 | >10 and ≤15 | Good progression | | | | | | | | | | |
| С | >20 and ≤35 | >15 and ≤25 | Fair progression | | | | | | | | | | |
| D | >35 and ≤55 | >25 and ≤35 | Noticeable congestion | | | | | | | | | | |
| E | >55 and ≤80 | >35 and ≤50 | Limit of acceptable delay | | | | | | | | | | |
| F | >80 | >50 | Unacceptable delay | | | | | | | | | | |
| Source: | Highway Capacity Manual, Tra | ansportation Research Board, | 2016 | | | | | | | | | | |

Using Synchro/SimTraffic software, which incorporates the HCM methodology, WCG computed the peak hour LOS for each study intersection. Multiple runs (10) of SimTraffic were used to provide a statistical evaluation of traffic operations along the study corridor and at each study intersection. Detailed LOS and queueing reports are included in *Appendix C*.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. LOS D is generally considered acceptable for urbanized areas. If LOS E or F conditions exist, an explanation and/or mitigation measures are presented.





II. BACKGROUND EXISTING CONDITIONS

A. Purpose

The purpose of the existing conditions section is to gather existing information on roadway geometry, lane configurations and traffic volumes for the surrounding area. This information is used to help identify and quantify impacts that the Project will have on the surrounding roadway network. The existing (2022) background analysis evaluates the study intersections and roadways without any Project traffic and establishes existing traffic and geometric conditions.

B. Roadway System

The intersections are described below and shown in *Figure 2*, along with existing intersection lane configurations.

<u>10550 South / 1055 West</u> — This is a four-leg intersection where east- and westbound traffic movements are uncontrolled. The north- and southbound directions are stop-controlled. Each approach has a single approach lane. The posted speed along 1055 West is 25 MPH. The posted speed on 10550 South is 25 MPH.

10840 South / River Front Parkway – This intersection is a dual-lane roundabout. The 10840 South approaches lead to business parks and only have a single approach lane. The approaches along River Front Parkway have two approach lanes. Each approach is controlled by a yield sign. The posted speed along River Front Parkway is 30 MPH. The posted speed along 10840 South is 25 MPH in the southeast direction and 20 MPH in the northwest direction.

C. Traffic Volumes

WCG conducted weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak period traffic counts at the following existing intersections:

- 10550 South / 1055 West
- 10840 South / River Front Parkway

The 10840 South / River Front Parkway intersection turning movement counts were completed on Thursday August 11, 2022. The 10550 South / 1055 West intersection turning movement counts were completed on Tuesday August 16, 2022. No pandemic restrictions were in place when the counts were completed.

Figure 2 depicts the existing (2022) AM and PM peak hour traffic volumes at the study intersections. Traffic count data is included in **Appendix B**.

D. Level of Service Analysis

WCG determined that all study intersections are currently operating at acceptable levels of service as shown in *Table 2*. Detailed LOS reports are included in *Appendix C*.



E. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. The 95th percentile queues were not significant. The full queuing analysis is included in *Appendix C*.

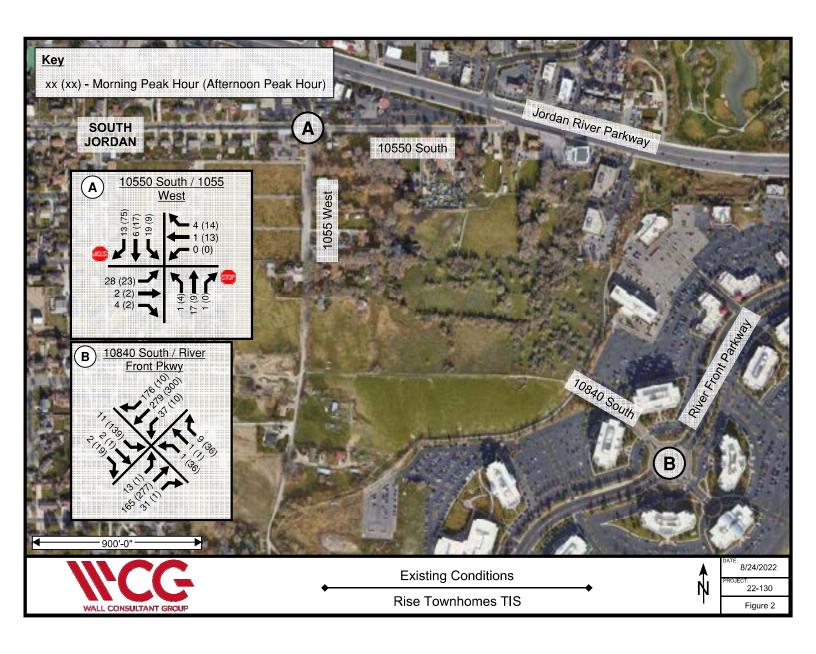
| Table 2: Existing Conditions (2022) Background Peak Hour Level of Service | | | | | | | | | | | | | |
|---|------------|-------------|---------------------------|-----------------------------------|---------------------------|-----|--|--|--|--|--|--|--|
| Intersection | | Wors | t Movement¹ | Overall Intersection ² | | | | | | | | | |
| Intersection | Control | Approach | Avg. Delay (Sec / Veh) | LOS | Avg. Delay (Sec / Veh) | LOS | | | | | | | |
| AM Peak Hour | | | | | | | | | | | | | |
| 10550 S / 1055 W | Stop | SB Thru | 5.2 | Α | - | ı | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | - | - | - | 3.4 | Α | | | | | | | |
| | PI | M Peak Hour | | | | | | | | | | | |
| 10550 S / 1055 W | Stop | SB Thru | 5.3 | A | - | - 1 | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | - | - | - | 3.9 | Α | | | | | | | |

¹ This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.

F. Mitigation Measures

As shown in *Table 2*, all study intersections are operating at an acceptable level of service. Therefore, no mitigation measures required for existing (2022) conditions.

²This represents the overall intersection LOS and delay (seconds / vehicle).





III.PROJECT CONDITIONS

A. Purpose

This section describes the type and intensity of land uses planned as a part of the Project and serves as the basis for trip generation, distribution, and assignment of Project trips to the study area roadways and intersections.

B. Project Description

The Project proposes a total of 142 Low-rise Multifamily dwelling units. A conceptual land use plan for the Project is included in *Appendix A*. Two project conditions were considered. One condition included only a single point of access to the housing development from the east side along 10840 South. The other condition included an additional access on the west side of the housing development to 1055 West.

C. Overall Trip Generation, Distribution and Assignment

Project trip generation estimates were developed using trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation*, 11th Edition.

Table 3 shows the total number of trips generated by the Project. To be conservative, the entire development was assumed to be complete for all plus project scenarios.

| Table 3: Overall Trip Generation | | | | | | | | | | | | | |
|----------------------------------|-----------------|-------------|----|-----------|-------|--------------|-----|-------|--|--|--|--|--|
| Land Use | Dwelling Units | Daily Total | А | M Peak Ho | ur | PM Peak Hour | | | | | | | |
| Land Ose | Dweiling Offics | Daily Total | In | Out | Total | In | Out | Total | | | | | |
| Low-Rise Multifamilty Housing | 142 | 984 | 14 | 44 | 58 | 46 | 28 | 74 | | | | | |

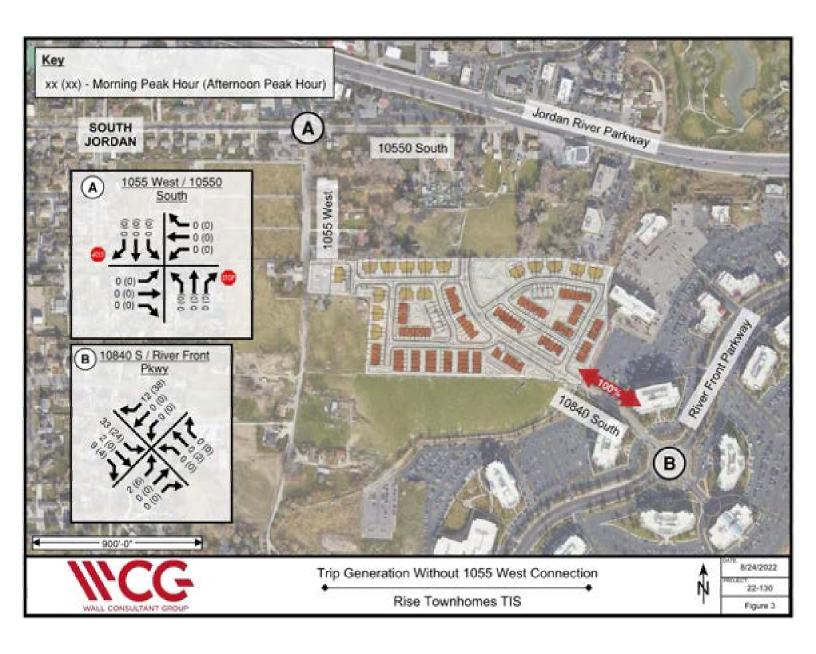
Project traffic from *Table 3* was assigned to the roadway network based on the type of trip and the proximity of Project access points to regional roadways and major population/employment centers. Existing travel patterns observed during data collection and engineering judgement provided primary guidance to establish distribution percentages.

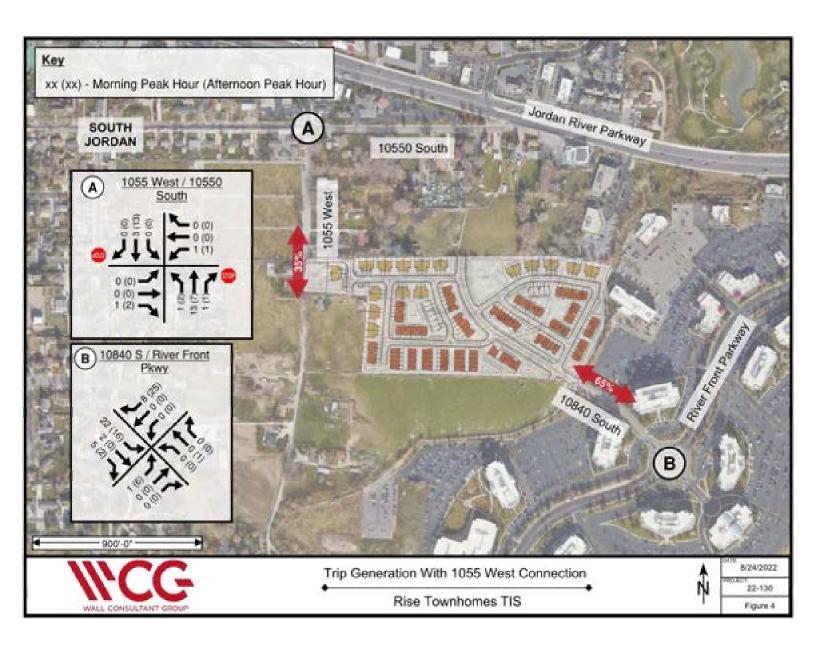
For the first project condition, 100% of the trips were distributed to 10840 South. Traffic was assigned for the opening day (2022) conditions for the Project and is shown in *Figure 3.*

The trip distribution for the second project condition for the 2022 plus project analyses was estimated as follows:

- 65% East
- 35% West

Traffic was assigned for the opening day (2022) conditions for the Project and is shown in *Figure 4.*







IV. OPENING DAY PLUS PROJECT CONDITIONS WITHOUT 1055 WEST CONNECTION

A. Purpose

The opening day project without 1055 West connection traffic was combined with (2022) background traffic volumes to evaluate the study intersections and determine any potential impacts that are specifically attributed to Project traffic.

B. Project Description

As mentioned in Chapter III Project Conditions, the Project will include a total of 142 residential units. Therefore, the project is anticipated to add an additional 58 (74) project trips in the AM and (PM) peak hours of traffic respectively, during the opening day conditions. *Figure 3* depicts the project traffic distribution and assignment to the roadway network.

C. Roadway Network

The project does not plan to change the existing roadway network as described in Chapter II Background Existing Conditions.

D. Traffic Volumes

The project traffic (*Figure 3*) was combined with 2022 background traffic volumes (*Figure 2*) to reflect the opening day plus project traffic volumes shown in *Figure 5*.

E. Level of Service Analysis

WCG determined that all study intersections are anticipated to operate at acceptable levels of service, as shown in *Table 4*. Detailed LOS reports are included in *Appendix C*.

F. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. No significant queueing is anticipated. The full queuing analysis is included in *Appendix C*.

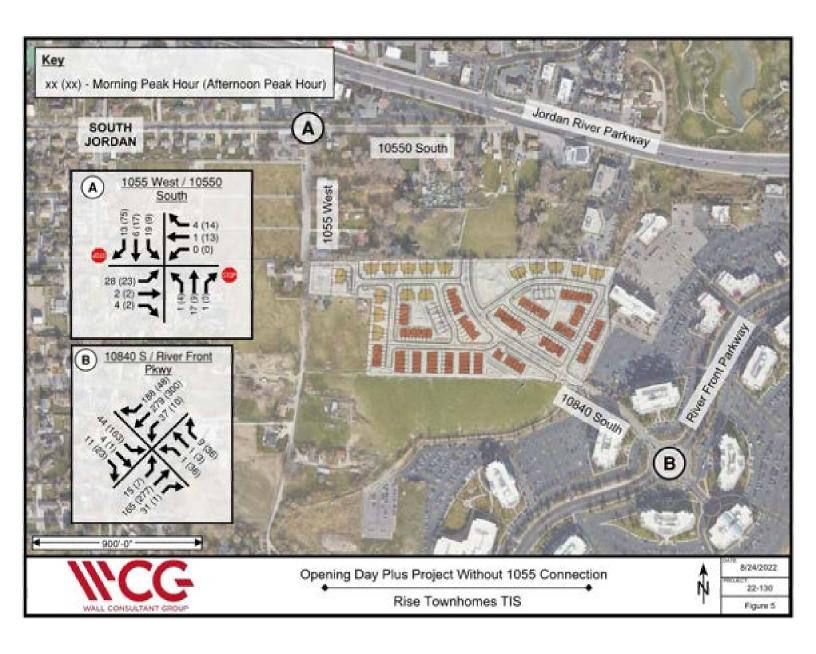


| Table 4: Opening Day (2022) Plus Project Peak Hour LOS Without Connection | | | | | | | | | | | | | |
|---|------------|-------------|---------------------------|--------------------------------------|---------------------------|-----|--|--|--|--|--|--|--|
| Intersection | | Wors | st Movement¹ | Overall Intersection ² | | | | | | | | | |
| Intersection | Control | Approach | Avg. Delay (Sec / Veh) | LOS | Avg. Delay (Sec / Veh) | LOS | | | | | | | |
| AM Peak Hour | | | | | | | | | | | | | |
| 10550 S / 1055 W | Stop | SB LT | 5.0 | Α | - | - | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | 1 | 1 | ı | 3.4 | Α | | | | | | | |
| | PI | √ Peak Hour | | | | | | | | | | | |
| 10550 S / 1055 W | Stop | SB Thru | 5.0 | Α | - | - | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | - | - | - | 3.9 | Α | | | | | | | |

¹ This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections. ² This represents the overall intersection LOS and delay (seconds / vehicle).

G. Mitigation Measures

As shown in Table 4, all intersections are expected to operate at acceptable LOS. Therefore, no mitigation measures required for opening day (2022) plus project for the first project condition.





V. OPENING DAY PLUS PROJECT CONDITIONS WITH 1055 WEST CONNECTION

A. Purpose

The opening day project with 1055 West connection traffic was combined with (2022) background traffic volumes to evaluate the study intersections and determine any potential impacts that are specifically attributed to Project traffic.

B. Project Description

As mentioned in Chapter III Project Conditions, the Project will include a total of 142 residential units. Therefore, the project is anticipated to add an additional 58 (74) project trips in the AM and (PM) peak hours of traffic respectively, during the opening day conditions. *Figure 4* depicts the project traffic distribution and assignment to the roadway network.

C. Roadway Network

The project does not plan to change the existing roadway network as described in Chapter II Background Existing Conditions. This scenario does assume a project connection to 1055 West.

D. Traffic Volumes

The project traffic (*Figure 4*) was combined with 2022 background traffic volumes (*Figure 2*) to reflect the opening day plus project traffic volumes shown in *Figure 6*.

E. Level of Service Analysis

WCG determined that all study intersections are anticipated to operate at acceptable levels of service, as shown in *Table 5*. Detailed LOS reports are included in *Appendix C*.

F. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. No significant queueing is anticipated. The full queuing analysis is included in *Appendix C*.

G. Mitigation Measures

As shown in **Table 5**, all intersections are expected to operate at acceptable LOS. Therefore, no mitigation measures required for opening day (2022) plus project for the second project condition (a project connection to 1055 West).



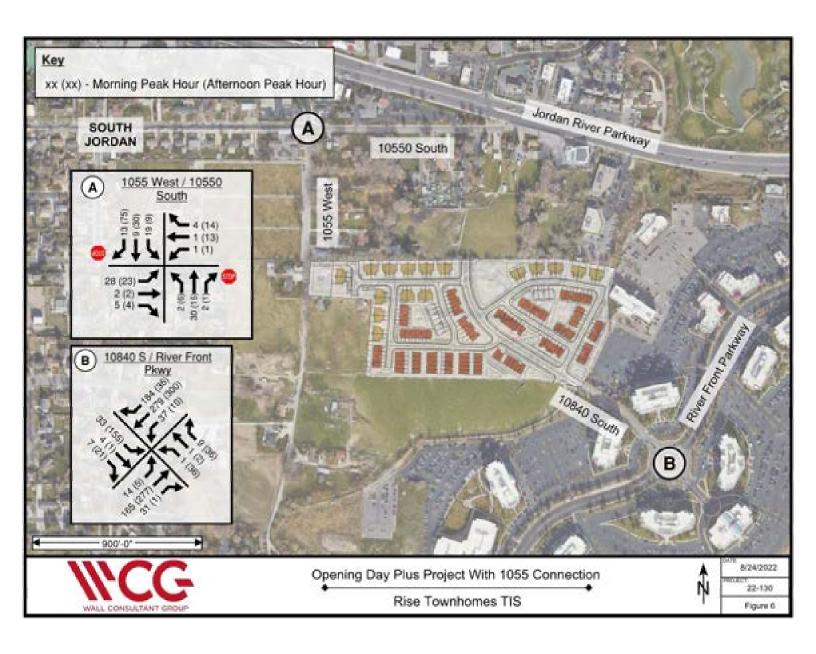
| Table 5: Opening Day (2022) Plus Project Peak Hour LOS with Connection | | | | | | | | | | | | | |
|--|------------|------------|---------------------------|--------------|---------------------------|-----|--|--|--|--|--|--|--|
| Intersection | | Wors | t Movement ¹ | Overall Inte | ersection ² | | | | | | | | |
| Intersection | Control | Approach | Avg. Delay (Sec / Veh) | LOS | Avg. Delay (Sec / Veh) | LOS | | | | | | | |
| AM Peak Hour | | | | | | | | | | | | | |
| 10550 S / 1055 W | Stop | NB LT | 6.1 | A | - | ı | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | - | - | - | 3.4 | Α | | | | | | | |
| | | PM Peak Ho | ur | | | | | | | | | | |
| 10550 S / 1055 W | Stop | SB Thru | 5.1 | Α | - | - | | | | | | | |
| 10840 S / River Front Pkwy | Roundabout | - | - | - | 3.9 | Α | | | | | | | |

¹ This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.

H. 1055 West Connection Summary

Having a connection to 1055 West does not significantly change the overall traffic operations in the study area. Either alternative will work well. However, to improve connectivity, integrate the development into the neighborhood and provide transportation options for residents, the connection to 1055 West is recommended.

² This represents the overall intersection LOS and delay (seconds / vehicle).





VI. APPENDICES



APPENDIX A: CONCEPTUAL LAND USE PLAN

Located in South Jordan PISE 100005

Site Plan Pice In the Management of State In th



APPENDIX B: TRAFFIC COUNTS

River Front Pkwy 10840 S South Jordan, UT

| South Jordan, | ľ |
|---------------|---|
| 8/11/2022 | |
| 2nd Thursday | |

| KWY 10840 S | • | | | | | | | | | | | | | | | | | |
|-------------|------|--------------|-------|------|--------------|-------|---------------------|-------------|-------|---------------------|---------|---------|-----------|--------|-------|----|--------|------|
| , UT | | | | | | | | | | | | | S | ource: | Elite | | | |
| | Rive | r Front Parl | kway | Rive | r Front Parl | kway | 1 | 10840 South | 1 | | Pede | estrian | s (Cros | ssing | ĺ | | | |
| | East | bound Appr | oach | West | bound App | roach | Northbound Approach | | | Southbound Approach | | | Approach) | | | | ĺ | |
| | Left | Through | Right | Left | Through | Right | Left | Through | Right | Left | Through | Right | EB | WB | NB | SB | 15 Min | Hour |
| 7:00 AM | 1 | 29 | 3 | 3 | 26 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 69 | 69 |
| 7:15 AM | 0 | 36 | 1 | 1 | 35 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 82 | 151 |
| 7:30 AM | 2 | 31 | 5 | 4 | 42 | 15 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 0 | 106 | 257 |
| 7:45 AM | 4 | 45 | 8 | 7 | 72 | 78 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 2 | 1 | 3 | 220 | 477 |
| 8:00 AM | 3 | 41 | 10 | 11 | 63 | 60 | 0 | 0 | 6 | 2 | 0 | 1 | 1 | 1 | 0 | 2 | 197 | 605 |
| 8:15 AM | 3 | 32 | 5 | 10 | 72 | 15 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 141 | 664 |
| 8:30 AM | 3 | 46 | 8 | 9 | 71 | 23 | 0 | 1 | 2 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 169 | 727 |
| 8:45 AM | 3 | 58 | 9 | 11 | 66 | 18 | 1 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 174 | 681 |
| 4:00 PM | 0 | 55 | 1 | 2 | 74 | 2 | 4 | 0 | 7 | 13 | 0 | 1 | 0 | 0 | 0 | 0 | 160 | 160 |
| 4:15 PM | 0 | 56 | 1 | 2 | 69 | 1 | 3 | 0 | 5 | 32 | 0 | 1 | 0 | 0 | 0 | 1 | 171 | 331 |
| 4:30 PM | 0 | 53 | 0 | 4 | 72 | 1 | 13 | 0 | 7 | 33 | 0 | 6 | 0 | 0 | 0 | 0 | 190 | 521 |
| 4:45 PM | 0 | 70 | 0 | 3 | 73 | 6 | 6 | 1 | 10 | 38 | 1 | 4 | 0 | 0 | 0 | 0 | 212 | 733 |
| 5:00 PM | 1 | 97 | 0 | 1 | 84 | 2 | 14 | 0 | 14 | 36 | 0 | 8 | 0 | 0 | 0 | 0 | 258 | 831 |
| 5:15 PM | 0 | 61 | 0 | 0 | 66 | 4 | 7 | 0 | 10 | 15 | 0 | 1 | 0 | 0 | 0 | 0 | 164 | 824 |
| 5:30 PM | 0 | 69 | 1 | 2 | 69 | 1 | 8 | 0 | 6 | 10 | 0 | 1 | 0 | 1 | 0 | 0 | 167 | 801 |
| 5:45 PM | 2 | 68 | 1 | 0 | 50 | 2 | 2 | 0 | 7 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 140 | 729 |

1055 W / 10500 S South Jordan, UT 8/16/2022 3rd Tuesday

|) 5 | | | | | | | | | | | | | | | | | | |
|---------|-------|------------|-------|------|-----------|-------|---------------------|---------|-------|---------------------|---------|-------|-----------|----------|-------|-------|--------|------|
| JT _ | | | | | | | | | | | | | S | ource: | Elite | | | |
| | | 10500 S | | | 10500 S | | | 1055 W | | | 1055 W | | Pede | estrians | (Cros | ssing | | |
| | Eastl | bound Appr | oach | West | bound App | roach | Northbound Approach | | | Southbound Approach | | | Approach) | | | | | |
| | Left | Through | Right | Left | Through | Right | Left | Through | Right | Left | Through | Right | EB | WB | NB | SB | 15 Min | Hour |
| 7:00 AM | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 14 | 14 |
| 7:15 AM | 8 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 2 | 2 | 5 | 0 | 0 | 0 | 0 | 21 | 35 |
| 7:30 AM | 4 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 14 | 49 |
| 7:45 AM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 15 | 64 |
| 8:00 AM | 6 | 0 | 1 | 0 | 0 | 0 | 1 | 7 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 21 | 71 |
| 8:15 AM | 8 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 7 | 1 | 3 | 3 | 2 | 0 | 0 | 25 | 75 |
| 8:30 AM | 6 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 7 | 0 | 5 | 0 | 0 | 0 | 0 | 22 | 83 |
| 8:45 AM | 8 | 0 | 2 | 0 | 1 | 1 | 0 | 6 | 1 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 28 | 96 |
| 4:00 PM | 4 | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 1 | 13 | 0 | 0 | 0 | 0 | 25 | 25 |
| 4:15 PM | 6 | 0 | 2 | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 1 | 12 | 0 | 0 | 0 | 0 | 28 | 53 |
| 4:30 PM | 5 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 0 | 3 | 1 | 7 | 0 | 0 | 0 | 0 | 24 | 77 |
| 4:45 PM | 8 | 1 | 1 | 0 | 9 | 3 | 1 | 4 | 0 | 4 | 4 | 9 | 0 | 0 | 0 | 0 | 44 | 121 |
| 5:00 PM | 3 | 1 | 1 | 0 | 2 | 8 | 1 | 3 | 0 | 3 | 5 | 31 | 0 | 0 | 0 | 0 | 58 | 154 |
| 5:15 PM | 5 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 0 | 0 | 2 | 15 | 0 | 0 | 0 | 0 | 29 | 155 |
| 5:30 PM | 7 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 6 | 20 | 0 | 0 | 0 | 0 | 37 | 168 |
| 5:45 PM | 3 | 0 | 0 | 0 | 2 | 2 | 3 | 1 | 0 | 3 | 4 | 17 | 0 | 0 | 0 | 0 | 35 | 159 |



APPENDIX C: SIMTRAFFIC LOS AND QUEUEING REPORTS

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | All |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | | 0.1 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 2.1 | 0.4 | 0.2 | | 0.0 | | 4.7 | 4.2 | 5.1 | 5.2 | 4.8 | 3.5 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| Total Del/Veh (s) | 3.1 | 3.7 | 2.2 | 3.1 | 3.9 | 2.6 | 0.9 | 0.9 | 1.3 | 3.0 | 3.3 | 1.9 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All | |
|--------------------|-----|--|
| Denied Del/Veh (s) | 0.2 | |
| Total Del/Veh (s) | 3.4 | |

Total Network Performance

| Denied Del/Veh (s) | 0.2 | |
|--------------------|-----|--|
| Total Del/Veh (s) | 3.7 | |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 3 | 36 | 38 |
| Average Queue (ft) | 0 | 15 | 22 |
| 95th Queue (ft) | 3 | 40 | 45 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| Directions Served LT R LT R LTR LTR LTR Maximum Queue (ft) 48 6 41 6 4 33 Average Queue (ft) 6 0 4 0 0 3 95th Queue (ft) 28 5 23 4 4 19 Link Distance (ft) 645 645 789 789 234 573 Upstream Blk Time (%) Queuing Penalty (veh) Storage Bay Dist (ft) Storage Bay Dist (ft) 5 | Movement | EB | EB | WB | WB | NB | SB |
|--|-----------------------|-----|-----|-----|-----|-----|-----|
| Average Queue (ft) 6 0 4 0 0 3 95th Queue (ft) 28 5 23 4 4 19 Link Distance (ft) 645 645 789 789 234 573 Upstream Blk Time (%) Queuing Penalty (veh) Storage Bay Dist (ft) | Directions Served | LT | R | LT | R | LTR | LTR |
| 95th Queue (ft) 28 5 23 4 4 19 Link Distance (ft) 645 645 789 789 234 573 Upstream Blk Time (%) Queuing Penalty (veh) Storage Bay Dist (ft) | Maximum Queue (ft) | 48 | 6 | 41 | 6 | 4 | 33 |
| Link Distance (ft) 645 645 789 789 234 573 Upstream Blk Time (%) Queuing Penalty (veh) Storage Bay Dist (ft) | Average Queue (ft) | 6 | 0 | 4 | 0 | 0 | 3 |
| Upstream Blk Time (%) Queuing Penalty (veh) Storage Bay Dist (ft) | 95th Queue (ft) | 28 | 5 | 23 | 4 | 4 | 19 |
| Queuing Penalty (veh) Storage Bay Dist (ft) | Link Distance (ft) | 645 | 645 | 789 | 789 | 234 | 573 |
| Storage Bay Dist (ft) | Upstream Blk Time (%) | | | | | | |
| | Queuing Penalty (veh) | | | | | | |
| O: D! T: (0/) | Storage Bay Dist (ft) | | | | | | |
| Storage Blk Time (%) | Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | Queuing Penalty (veh) | | | | | | |

Network Summary

Network wide Queuing Penalty: 0

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT | SBR | All | |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | |
| Total Del/Veh (s) | 1.6 | 0.2 | 0.1 | 0.1 | 0.0 | 4.2 | 4.7 | 4.3 | 5.3 | 3.2 | 2.7 | |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 |
| Total Del/Veh (s) | | 4.5 | 2.8 | 3.1 | 4.1 | 2.1 | 2.4 | 1.9 | 1.4 | 3.5 | 3.6 | 2.4 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.9 |

Total Network Performance

| Denied Del/Veh (s) | 0.2 |
|--------------------|-----|
| Total Del/Veh (s) | 4.2 |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 32 | 33 | 55 |
| Average Queue (ft) | 1 | 10 | 33 |
| 95th Queue (ft) | 13 | 35 | 50 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| Movement | EB | WB | NB | SB |
|-----------------------|-----|-----|-----|-----|
| Directions Served | LT | LT | LTR | LTR |
| Maximum Queue (ft) | 66 | 54 | 47 | 67 |
| Average Queue (ft) | 24 | 10 | 11 | 26 |
| 95th Queue (ft) | 59 | 38 | 36 | 59 |
| Link Distance (ft) | 645 | 789 | 234 | 573 |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | | | |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Network Summary

Network wide Queuing Penalty: 0

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | All |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | | 0.1 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 2.2 | 0.3 | 0.0 | | 0.0 | | 4.7 | 4.9 | 5.0 | 4.8 | 4.8 | 3.5 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| Total Del/Veh (s) | 3.0 | 3.9 | 2.2 | 3.1 | 4.0 | 2.7 | | 0.8 | 1.2 | 3.0 | 3.6 | 2.2 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.4 |

Total Network Performance

| Denied Del/Veh (s) | 0.2 |
|--------------------|-----|
| Total Del/Veh (s) | 3.7 |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 6 | 38 | 43 |
| Average Queue (ft) | 0 | 15 | 23 |
| 95th Queue (ft) | 4 | 40 | 46 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| Movement | EB | EB | WB | WB | NB | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served | LT | R | LT | R | LTR | LTR |
| Maximum Queue (ft) | 63 | 5 | 58 | 18 | 6 | 54 |
| Average Queue (ft) | 11 | 0 | 5 | 1 | 0 | 12 |
| 95th Queue (ft) | 41 | 3 | 30 | 10 | 6 | 39 |
| Link Distance (ft) | 645 | 645 | 789 | 789 | 234 | 573 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | | | | | |
| Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Report WCG

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT | SBR | All | |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | |
| Total Del/Veh (s) | 1.5 | 0.1 | 0.1 | 0.2 | 0.1 | 4.5 | 4.8 | 4.4 | 5.0 | 3.1 | 2.7 | |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 |
| Total Del/Veh (s) | 4.2 | 4.8 | 2.2 | 2.7 | 4.0 | 2.3 | 2.6 | 2.6 | 1.4 | 3.6 | 3.2 | 2.7 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All | | |
|--------------------|-----|--|--|
| Denied Del/Veh (s) | 0.2 | | |
| Total Del/Veh (s) | 3.9 | | |

Total Network Performance

| Denied Del/Veh (s) | 0.2 |
|--------------------|-----|
| Total Del/Veh (s) | 4.3 |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 9 | 31 | 59 |
| Average Queue (ft) | 0 | 10 | 33 |
| 95th Queue (ft) | 6 | 34 | 50 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| EB | WB | NB | SB |
|-----|----------------------|------------------------|--|
| LT | LT | LTR | LTR |
| 85 | 56 | 46 | 87 |
| 30 | 8 | 12 | 30 |
| 71 | 35 | 38 | 67 |
| 645 | 789 | 234 | 573 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | LT 85 30 71 | LT LT 85 56 30 8 71 35 | LT LT LTR 85 56 46 30 8 12 71 35 38 |

Network Summary

Network wide Queuing Penalty: 0

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 2.2 | 0.2 | 0.2 | 1.2 | 0.0 | 0.0 | 6.1 | 4.8 | 5.8 | 5.0 | 5.1 | 4.8 |

1: 1055 W & 10550 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.1 |
| Total Del/Veh (s) | 3.7 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.2 | 0.2 | 0.1 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| Total Del/Veh (s) | 2.9 | 3.8 | 2.2 | 3.0 | 4.0 | 2.7 | 0.8 | 1.3 | 1.2 | 2.9 | 3.8 | 2.2 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.4 |

Total Network Performance

| Denied Del/Veh (s) | 0.2 |
|--------------------|-----|
| Total Del/Veh (s) | 3.8 |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 23 | 53 | 45 |
| Average Queue (ft) | 1 | 21 | 24 |
| 95th Queue (ft) | 10 | 48 | 46 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| Movement | EB | EB | WB | WB | NB | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served | LT | R | LT | R | LTR | LTR |
| Maximum Queue (ft) | 47 | 3 | 48 | 10 | 6 | 44 |
| Average Queue (ft) | 10 | 0 | 4 | 0 | 0 | 10 |
| 95th Queue (ft) | 37 | 3 | 22 | 5 | 5 | 35 |
| Link Distance (ft) | 645 | 645 | 789 | 789 | 234 | 573 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | | | | | |
| Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |

Network Summary

Network wide Queuing Penalty: 0

1: 1055 W & 10550 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| Total Del/Veh (s) | 1.6 | 0.2 | 0.0 | | 0.1 | 0.1 | 4.4 | 4.7 | 2.3 | 4.5 | 5.1 | 3.2 |

1: 1055 W & 10550 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.1 |
| Total Del/Veh (s) | 3.0 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 |
| Total Del/Veh (s) | 4.3 | 4.7 | 2.8 | 2.8 | 4.1 | 2.3 | 2.7 | 2.2 | 1.4 | 3.5 | 3.5 | 2.5 |

2: River Front Pkwy & 10840 S Performance by movement

| Movement | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.9 |

Total Network Performance

| Denied Del/Veh (s) | 0.2 |
|--------------------|-----|
| Total Del/Veh (s) | 4.3 |

Intersection: 1: 1055 W & 10550 S

| Movement | EB | NB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LTR | LTR | LTR |
| Maximum Queue (ft) | 9 | 33 | 69 |
| Average Queue (ft) | 0 | 17 | 35 |
| 95th Queue (ft) | 6 | 42 | 55 |
| Link Distance (ft) | 650 | 528 | 442 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 2: River Front Pkwy & 10840 S

| EB | WB | NB | SB |
|-----|----------------------|------------------------|--|
| LT | LT | LTR | LTR |
| 86 | 52 | 46 | 76 |
| 29 | 8 | 12 | 30 |
| 69 | 34 | 38 | 63 |
| 645 | 789 | 234 | 573 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | LT 86 29 69 | LT LT 86 52 29 8 69 34 | LT LT LTR 86 52 46 29 8 12 69 34 38 |

Network Summary

Network wide Queuing Penalty: 0